AlarmScout 961/962
(loop powered)

Honeywell Enraf

Installation, operation & service manual

AlarmScout 961/962 loop powered

UNPACKING

Unpack the instrument carefully. Make sure all components have been removed from the foam protection. Inspect all components for damage. Report any concealed damage to the carrier within 24 hours. Check the contents of the carton/crates against the packing slip and report any discrepancies to Honeywell Enraf. Check the nameplate model number to be sure it agrees with the packing slip and purchase order. Check and record the serial number for future reference when ordering parts.

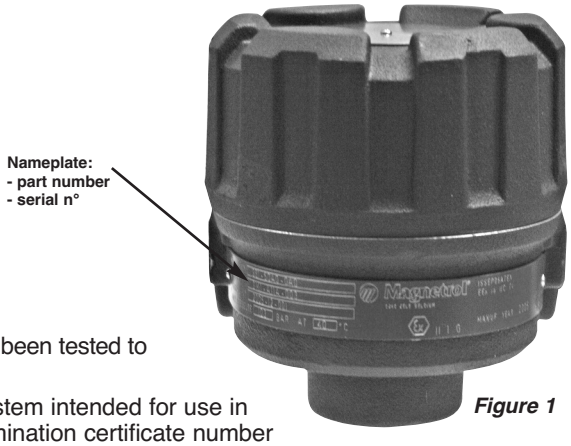


Figure 1

CE 0038 0344

These units are in compliance with:

1. The EMC directive 2004/108/EC. The units have been tested to EN 61326: 1997 + A1 + A2.
2. Directive 94/9/EC for equipment or protective system intended for use in potentially explosive atmospheres. EC-type examination certificate number ISSeP06ATEX011X - intrinsically safe and ISSeP06ATEX008 - flameproof enclosure.
3. The PED Directive 97/23/EC (pressure equipment directive). Safety accessories per category IV module H1.

SPECIAL CONDITIONS FOR ATEX INTRINSICALLY SAFE USE

Materials marked as Category 1 equipment and used in hazardous areas requiring this category, shall be installed in such a way that, even in the event of rare incidents, the aluminium enclosure cannot be an ignition source due to impact or friction.

MOUNTING

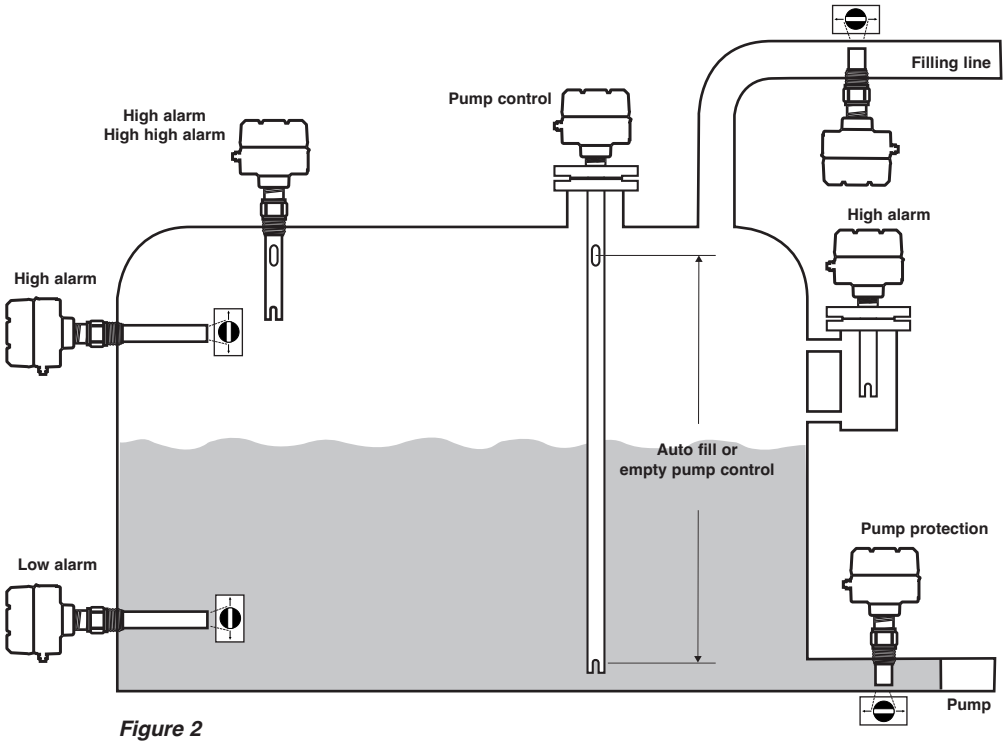


Figure 2

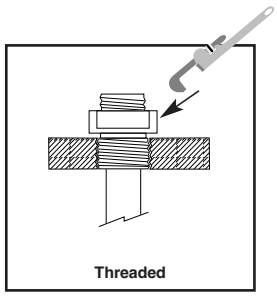


Figure 3

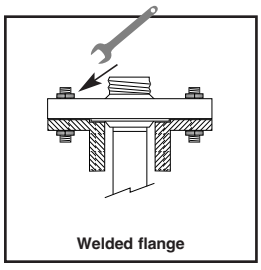


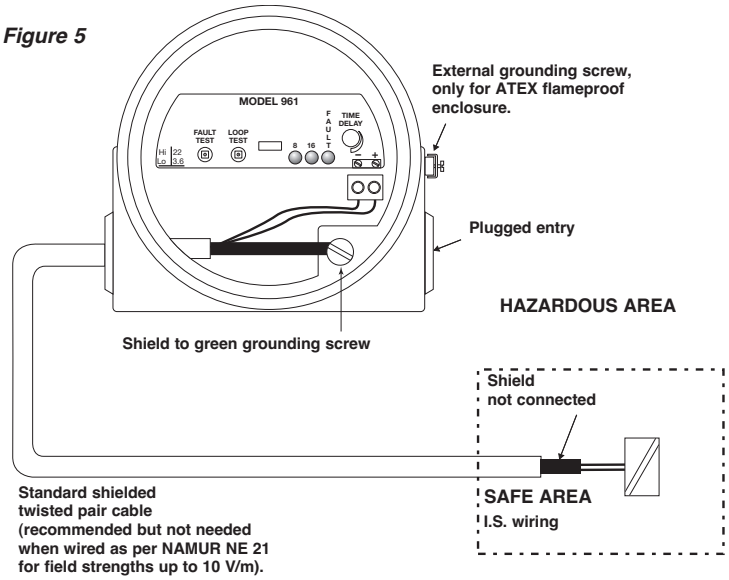
Figure 4

Warning: Bring the instrument on the same potential as the tank potential prior to the installation.

WIRING WITH CABLES

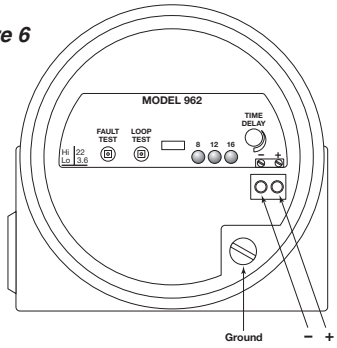
Model 961: single gap

Figure 5


MODEL 961
FAULT TEST
LOOP TEST
TIME DELAY
External grounding screw, only for ATEX flameproof enclosure.
Plugged entry
HAZARDOUS AREA
Shield to green grounding screw
Shield not connected
SAFE AREA
I.S. wiring
Standard shielded twisted pair cable (recommended but not needed when wired as per NAMUR NE 21 for field strengths up to 10 V/m).

Model 962: dual gap

Figure 6



Important: Connect the unit to the ground for avoiding earth potential drifts.

The shield wire should only be grounded at ONE side only. It is recommended to connect the shield to ground in the field (at the level switch side) but connecting in the control room is also allowed.

WIRING WITH CONDUITS

Caution: Observe all applicable electrical codes and proper wiring procedures

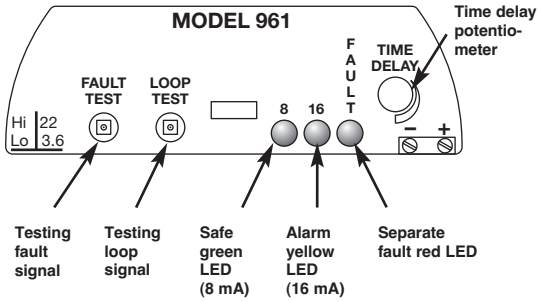
1. Make sure the power source is turned off.
2. Unscrew and remove housing cover.
3. Pull power supply and relay wires through the conduit connection.
4. Connect power leads to proper terminals for AC power (102 to 265 V AC) or for DC power (18 – 32 V DC)
   a. AC Power – Connect “hot” wire to terminal marked L1 and the “neutral” wire to the terminal marked L2. The green head screw should be used for grounding.
   b. DC Power – Connect wires to terminals (+) and (-) on the terminal block. The green head screw should be used for grounding.
5. Connect desired relay wiring (if applicable).
6. Prevent moisture seepage into housing by installing an approved seal drain fitting in the conduit run leading to the unit.
7. Wiring is complete. Replace housing cover.

Caution: In hazardous areas, do not power the unit until the conduit is sealed and enclosure cover is screwed down securely.

USER INTERFACE

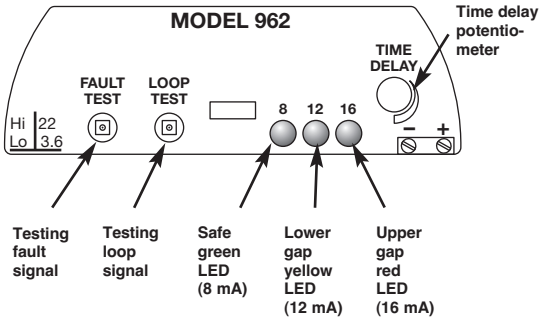
Model 961: single gap

Figure 7



Model 962: dual gap

Figure 8



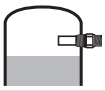
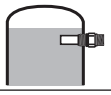
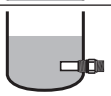
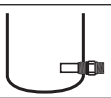
SET UP AND FUNCTIONS

Set up

Fault selection:
Select for which signal the unit should report a malfunction ≥ 22 mA or ≤ 3,6 mA

Time delay setting:
Turning the potentiometer clockwise will increase the time delay from 0,5 s to 45 s. Time delay is typically used where turbulence, boiling or splashing can cause false level alarms. Setting delay to a longer value will increase time to actuate.

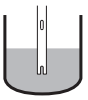
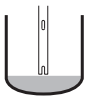
Model 961 high-low level fail safe selection

Failsafe mode	Level	Output signal	8 mA green LED	16 mA yellow LED	Fault red LED
«Hi» High Level Failsafe		8 mA (± 1 mA)	ON	OFF	OFF
		16 mA (± 1 mA)	OFF	ON	OFF
«Lo» Low Level Failsafe		8 mA (± 1 mA)	ON	OFF	OFF
		16 mA (± 1 mA)	OFF	ON	OFF

Model 961 fault conditions

Failsafe mode	Output signal	Fault red LED
«Hi» High Level Failsafe	≥ 22 mA	ON
«Lo» Low Level Failsafe	≤ 3,6 mA	ON

Model 962 high-low level fail safe selection

Failsafe mode	Level	Output signal	8 mA green LED	12 mA yellow LED	16 mA red LED
«Hi» High Level Failsafe		8 mA (± 1 mA)	ON	OFF	OFF
		12 mA (± 1 mA)	OFF	ON	OFF
		16 mA (± 1 mA)	OFF	OFF	ON
«Lo» Low Level Failsafe		8 mA (± 1 mA)	ON	OFF	OFF
		12 mA (± 1 mA)	OFF	ON	OFF
		16 mA (± 1 mA)	OFF	OFF	ON

Model 962 fault conditions

Failsafe mode	Output signal	8 mA green LED	12 mA yellow LED	16 mA red LED
«Hi» High Level Failsafe	≥ 22 mA	OFF	OFF	OFF
«Lo» Low Level Failsafe	≤ 3,6 mA	OFF	OFF	OFF

MAINTENANCE

Manual Testing

Loop Test: (8 mA / 12mA / 16mA):
Pressing the “Loop Test” pushbutton, will manually test the loop and connected actuators/indicators. The loop test forces the output and corresponding LED’s to shift from 8 mA to 12 mA (only 962) to 16 mA back to 8 mA. The time delay setting is not active during testing.

Fault Test (3.6 mA /22 mA):
Pressing the “Fault Test” pushbutton for a minimum of 2 seconds, will manually test the fault output and connected actuators/indicators. The fault test simulates a circuit failure and forces the output to either ≤ 3.6 mA or ≥ 22 mA. The time delay setting is not active during testing.

Troubleshooting

Problem	Action/Indication	Solution
No loop signal	No LED’s are ON	Check wiring / input power Check for malfunction (model 962). See below
No change in output between wet gap / dry gap	Gap may be plugged by solids / dense foam	Clean the transducer
	Gap is out of reach of liquid	Check mounting section on page 2 and relocate the unit or check blocking valves.
Chattering output	Excessive aeration / Turbulence	Increase time delay Check input power Relocate the AlarmScout
Fault LED is ON (model 961) All LED’s OFF (model 962)	A system fault has been detected	Check input power
	Press «Loop Test» pushbutton to identify the problem:	
	* --- * : 1 flash (red LED)	Check wiring between transducer and electronics or replace transducer.
	** --- ** : 2 flashes (red LED)	Replace electronics
	*** --- *** : 3 flashes (red LED)	The unit senses excessive noise interference. Check shield connection or eliminate interference from a walkie-talkie, radio or other EMC source

SPARE PARTS

Replacing electronics/transducer

The electronics can be exchanged in the field under process conditions. Follow below steps to exchange electronics/ transducer:

Note: Adjust set up of the replacing electronics following the settings of the old electronics (see configuration section).
Check with customer and verify applicable site permits prior to start activities.

1. Disconnect power before removing the housing cover
2. Remove power/output wires (a)
3. Click out the protection cap of the electronics (b)
4. Remove the 2 bracket screws and slide out electronics (c)
5. Remove the transducer wires (see Wiring section) (d)
6. Re-assemble following the same procedure in opposite way. Make sure that the tip on the bracket of the electronic block is seated properly in the corresponding recess in the housing base - (e)

Spare parts

Partn°: | | | | | | | | | | | |

Digit in partn°:

1	2	3	4		5	6	7	8		9	10	11

Serial n°: | | | | | | | | | | | |

See nameplate, always provide complete partn° and serial n° when ordering spares.

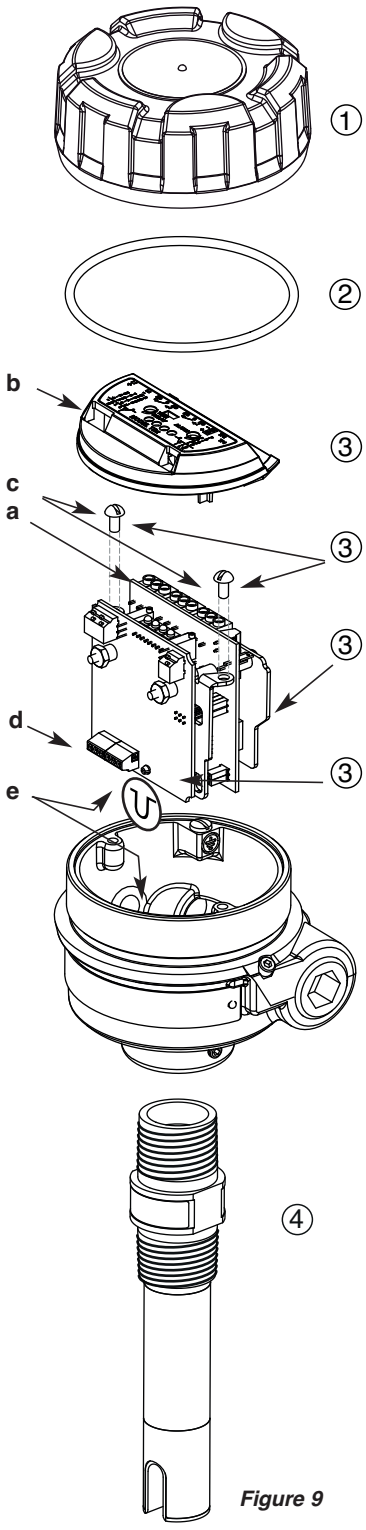


Figure 9

	Spare part
(1) Housing cover	consult factory
(2) "O"-ring	012-2201-237
(4) Transducer	consult factory

(3) Electronic module			
Digit 4	**Digit 5**	**Digit 10**	**Spare part**
1	5	A or C	089-7259-005
		1	089-7259-003
2		all	089-7258-003

For More Information
To learn more about Honeywell Enraf's solutions, contact your Honeywell Enraf account manager or visit www.honeywellenraf.com.

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